09/905,704

AMENDMENTS

In the Claims:

Please add claims 1-30 as follows:

1. An *in vivo* assay system for determining the effect of a pharmaceutically acceptable compound on angiogenesis comprising:

a) a composition of microvascular endothelial cells; and

b) a non-human host,

wherein said cells have a recombinant expression cassette encoding telomerase, and wherein said compound modulates the formation of functional microvessels from said cells that communicate with the circulatory system of said host.

2. The *in vivo* assay system of claim 1 further comprising a digital imaging device.

3. The *in vivo* assay system of claim 2 wherein said device detects fluorescence.

4. The *in vivo* assay system of claim 1 wherein said cells stably express a transformed genetic marker.

5. The *in vivo* assay system of claim 4 wherein said transformed genetic marker is enhanced green fluorescent protein (eGFP).

6. The *in vivo* assay system of claim 1 wherein said cells are human dermal microvascular endothelial cells.

7. The *in vivo* assay system of claim 1 wherein said telomerase is a human telomerase reverse transcriptase catalytic subunit.

8. The *in vivo* assay system of claim 1 wherein said host is a SCID mouse.

9. The *in vivo* assay system of claim 1 wherein said compound is selected from the group consisting of growth factors, extracellular matrix molecules, proteinase inhibitors, cell adhesion molecules, angiostatic factors, apoptotic inducers, and inflammatory mediators.

10. The *in vivo* assay system of claim 9 wherein said compound is a growth factor.

11. The *in vivo* assay system of claim 10 wherein said growth factor is selected from the group consisting of angiopoietins, CTGF, EGF, FGF-2, IGF, PLGF, PDGF, SF, TGF, and VEGF.

12. The *in vivo* assay system of claim 11 wherein said growth factor is VEGF.

13. The *in vivo* assay system of claim 11 wherein said growth factor is FGF-2.

14. The *in vivo* assay system of claim 1 wherein said compound modulates tumor angiogenesis.

15. An *in vivo* method for analyzing the effect of a pharmaceutically acceptable compound on angiogenesis comprising:

a) providing a composition of microvascular endothelial cells, wherein said cells have a recombinant expression cassette encoding telomerase and a stably transformed genetic marker;

b) adding a compound that modulates the formation of functional microvessels to said cells to form a graft;

c) implanting said graft in a non-human host; and

d) determining the amount of neovascularization in said graft by measuring the expression of said transformed genetic marker.

16. The *in vivo* method of claim 15 wherein said cells are human dermal microvascular endothelial cells.

17. The *in vivo* method of claim 15 wherein said telomerase is a human telomerase reverse transcriptase catalytic subunit.

18. The *in vivo* method of claim 15 wherein said transformed genetic marker is enhanced green fluorescent protein (eGFP).

19. The *in vivo* method of claim 15 wherein expression of said transformed genetic marker is detected by a digital imaging device.

20. The *in vivo* method of claim 15 wherein said compound is selected from the group consisting of growth factors, extracellular matrix molecules, proteinase inhibitors, cell adhesion molecules, angiostatic factors, apoptotic inducers, and inflammatory mediators.

21. The *in vivo* method of claim 20 wherein said compound is a growth factor.

22. The *in vivo* method of claim 21 wherein said compound is VEGF.

23. The *in vivo* method of claim 21 wherein said compound is FGF-2.

24. The *in vivo* method of claim 15 wherein said composition further comprises matrigel.

25. The *in vivo* method of claim 15 wherein said host is a SCID mouse.

26. The *in vivo* method of claim 15 wherein said compound modulates tumor angiogenesis.

27. An *in vivo* system for human microvasculature formation comprising:

a) a non-human host; and

b) at least one microvessel formed from a composition of microvascular endothelial cells having a recombinant expression cassette encoding telomerase and a stably transformed genetic marker in said host, wherein host blood is transmitted through said at least one microvessel.

28. The *in vivo* system of claim 27 wherein said host is a SCID mouse.

29. The *in vivo* system of claim 27 wherein said telomerase is a human telomerase reverse transcriptase catalytic subunit.

30. The *in vivo* system of claim 27 wherein said stably transformed genetic marker is enhanced green fluorescent protein (eGFP).